2008 Annual Water Quality Report

Lawrence W. Inlow Park, Carmel, IN

City of Carmel Utilities

www.carmel.in.gov

Save Water, Save Energy

It takes a considerable amount of energy to deliver and treat the water you use everyday. American public water supply and treatment facilities consume about 50 billion kilowatt-hours (kWh) per year – enough electricity to power more than 4.5 million homes for an entire year. For example, letting your faucet run for five minutes uses about as much energy as letting a 60-watt light bulb run for 14 hours.

By reducing household water use you can help reduce the energy required to supply and treat public water supplies and help address climate change.

In fact:

- If one out of every 100 American homes retrofitted with water-efficient fixtures, we could save about 100 million kWh of electricity per year – avoiding 75,000 tons of greenhouse gas emissions. That is equivalent to removing nearly 15,000 automobiles from the road for one year!
- If one percent of American homes replaced an older toilet with a high-efficiency toilet (HET), the country would save more than 38 million kWh of electricity – enough to supply more than 43,000 households with electricity for one month.

(information provided by the United States Environmental Protection Agency)

JIM BRAINARD, MAYOR

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City of Carmel Utilities

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Carmel's water quality is excellent

Carmel Utilities takes its responsibility to provide clean drinking water to its 29,000 customers very seriously. We are pleased to report that your tap water met all Environmental Protection Agency (EPA) and state standards in 2008. In fact, we have never had a violation of Maximum Contaminant Levels (MCL). This report provides consumer information about where your water comes from, the water treatment process, what it contains and how it compares to standards set by regulatory agencies.

The purpose of this report is to keep our customers well informed, so they can support us in our effort to maintain the highest drinking water standards for the City of Carmel.

2008 Central Carmel Water Quality Report

Substances we detected	MCLG What's the goal	MCL What's allowed	System Wide Results - Levels found in your drinking water	Compliance Achieved	Possible Source Where did it come from?
Antimony (ppb)	6 ppb	6 ppb	.0004 - .0007	YES	Discharge from refineries, fire retardants, ceramics, electronics, solder
Arsenic (ppb)	0 ppb	10 ppb	ND to .0007 ppb	YES	Natural deposits
Barium (ppb)	2 ppm	2 ppm	.0197 - .0561 ppm	YES	Natural deposits
Chromium	100 ppb	100 ppb	.0009 - .0027 ppb	YES	Natural deposits
Fluoride (ppm)	2 ppm	2 ppm	.9 - 1.5 ppm	YES	Natural deposits & treatment additive
Mercury (ppm)	0.002 ppm	0.002 ppm	ND - .0004 ppm	YES	Natural deposits, drycell batteries & fluorescent light bulbs
Sodium (ppm)	NA	NA	139.5 - 159 mg/l	YES	Erosion of natural deposits; Leaching
Nitrate (ppm)	10 ppm	10 ppm	.0940 - .1590 ppm	YES	Fertilizer, septic tank leachate
Copper & Lead:	**MCLG**	**AL**			
Copper (ppm)	1.3 ppm	1.3 ppm	.188 ppm	YES	Corrosion of customer plumbing
Lead (ppb)	0 ppb	15 ppb	7 ppb	YES	Corrosion of customer plumbing
Organic Disinfection By-products:					
Total THMs (ppb) (THMs: bromo form, Flow weighted bromodichloromethane, Annual average chlorodibromomethane, chloroform)	0 ppb	80 ppb	13.31 pbb	YES	By-product of chlorination treatment
HAA5 (ppb) (HAA5: dibromoacetic acid, dichloroacetic acid, monobromoacetic acid, monochloroacetic acid, trichloroacetic acid)	0 ppb	60 ppb Annual average	2.48 ppb Flow weighted	YES	By-product of chlorination treatment
Radionuclides:					
Gross Beta Gross Alpha Uranium Radium -228 (pCi/l)	0 0 0 0	4 15 30 5	2.00 - 3.50 0 - 2.10 .00050 - .00750 ND	YES YES YES YES	Erosion of natural deposits
Disinfectant Residual:		**MRDL**			
Chlorine (ppm) (Total chlorine includes free chlorine and chloramine)	NA	4 ppm	.37 - 1.13	YES	Disinfectant & treatment additive
Microorganisms					
Total Coliform		5%		YES	Naturally present in environment

ppb = parts per billion ◆ ppm = parts per million ◆ pCi/L = picocuries per liter ◆ n/a = not available ◆ nd = not detectible
Data presented in this report is from 2008 testing done in accordance with state and federal regulations.

What is a drinking water report and why did I get one?

As required by the U.S. Environmental Protection Agency (EPA), this drinking water report provides information on where water comes from and how it compares to current standards. If after reading this report you have any questions or concerns, please contact us at (317) 571–2443.

Important Terms

To better understand the table about the quality of the treated water from Carmel Utilities water treatment plants, there are several terms that need defining.

Maximum Contaminant Level Goal (MCLG) — The level of contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

Maximum Contaminant Level (MCL) — This is the highest level of a contaminant allowable in drinking water. The EPA establishes the concentrations for each contaminant. MCLs are set as close to the MCLGs as feasible using the best available treatment technology. When reading the table, compare the results shown to the MCL.

Action Level — The concentration of a contaminant (lead and copper) which, if exceeded, triggers a treatment or other requirements which a water system must follow. A utility's compliance is measured by sampling selected customers' taps.

(1) - Level detected for copper and lead represent the 90th percentile value as calculated from a total of 20 samples each.

(2) - Maximum level detected for TTHMs and HAA5s represent the annual averages based on quarterly samples.

City of Carmel Utilities

If you are interested in learning more about Carmel Utilities please call (317) 571-2443 or go to ***utilities*** on the City of Carmel website at www.carmel.in.gov.

More information about contaminants and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791, or via the web at www.EPA.gov.

EPA WaterSense

City of Carmel Utilities

PWSID 5229004

How much to water your lawn?

Did you know that established lawns only need one inch of water a week? Most people water much more than this. Often automatic sprinkler systems are set with times that deliver much more water than your lawn needs. It is also difficult to tell how much water your lawn is receiving when you use manual sprinklers.

That's All!
One inch of water including normal rainfall to keep your lawn green

1"

To determine how long you should water your grass follow this helpful tip:

Take an empty tuna or cat food can and place it in an area that is to be sprinkled. Turn on your sprinkler for 15 minutes. Measure the amount of water in the can and you have an idea of how many 15 minute sprinkling segments it will take to reach an inch of water. Take this time minus the rainfall you get during a given week and you have an approximation of how much you need to water. Most people will be surprised at how little water your lawn will need to stay healthy and green.

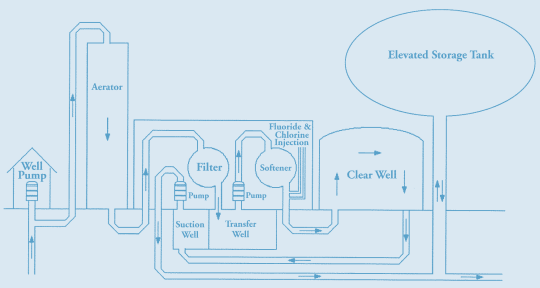
Did you know?

- A 10 minute shower uses between 60 to 100 gallons of water.
- A 1 inch yard hose dispenses 300 gallons of water per hour.
- The standard washing machine uses over 40 gallons of water per load.
- If you leave the faucet on while brushing your teeth, over 4 gallons of water goes down the drain.
- The average American uses 100 gallons of water per day, but less than one gallon of that is for drinking.
- Flushing a regular toilet uses 5 gallons per flush compared to an ultra low-flow toilet which is 1.1 gallons per flush.
- A leaking toilet can waste up to 200 gallons of water per day and it is estimated that 20% of household toilets leak. These leaks are usually caused by worn out flappers. These are easy and inexpensive to repair.
- Running a faucet for 5 minutes uses as much energy as burning a 60 watt light bulb for 14 hours.
- Chemicals in automatic bowl cleaners that are put in a toilet tank will cause a degradation of flapper valves and other tank components which cause the toilet to leak.
- The water shut off valve for most homes in Carmel is located in the water meter pit in front of the house near the street.
- Between 1950 and 2000 the U.S. population has doubled, but the water use has tripled.

Fire Hydrant Flushing

As a means of maintaining water quality within the distribution system, fire hydrants are flushed in the spring and fall of each year. This decreases the opportunity for water to become stagnant and assists in keeping water mains clean from iron build up.

Water Treatment Process



3-step treatment process is used by Carmel Utilities to prepare clean water

1. Iron Removed — The water treatment plant aerates the water to oxidize the soluble iron found naturally in well water. The oxidized iron adheres to itself forming clumps that are filtered out of the water by iron filters.

2. Water Softened — Then, the iron filtered water passes through a process where the water is softened using zeolite ion exchange softeners similar to the process used in many home softeners. Typically, water is softened to five (5) grains hardness, which is considered moderately hard water. Should you desire water that has been softened to zero (0) grains hardness, a home softener will be needed. During periods of extremely high summer water usage, the level of softening may be decreased to meet customer demand.

3. Chlorine and Fluoride Added — Chlorine is added to destroy any harmful bacteria present and to maintain a level of protection as the water travels through the distribution system. Fluoride is added to help strengthen resistance to cavities in teeth. Following the injection of chlorine and fluoride, the water enters the distribution system to be delivered to Carmel's homes and businesses.

Water Contaminants Before Treatment

The sources of drinking water (tap and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals, and in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants that may be present in source water include:

- Microbial contaminants, such as viruses and bacteria
- Inorganic contaminants, such as salts, metals and minerals
- Pesticides
- Organic chemicals from industrial or petroleum use
- Radioactive materials

In order to ensure that tap water is safe to drink, the Environmental Protection Agency (EPA) prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottled water that must provide the same protection for public health.

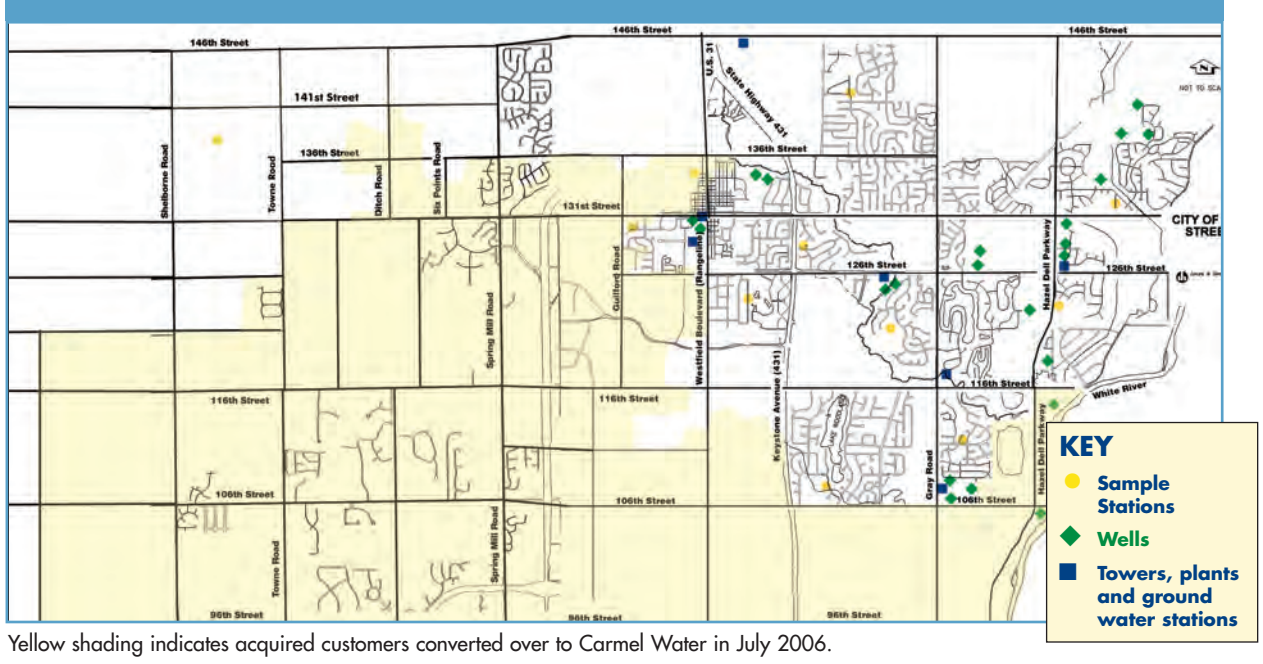
The Bottom Line

The results in the table indicate that Carmel Utilities' treated water exceeds the quality parameters set forth by the EPA. Although the contaminants listed have appeared in our water samples, this should not alarm you. The contaminants are at levels well below the Maximum Contaminant Level (MCL) issued by the EPA and do not pose a threat to most consumers. However, some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons, such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, persons with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA and the Center for Disease Control (CDC) guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791. You are welcome to call Carmel Utilities at (317) 571-2443 with questions about your water quality.

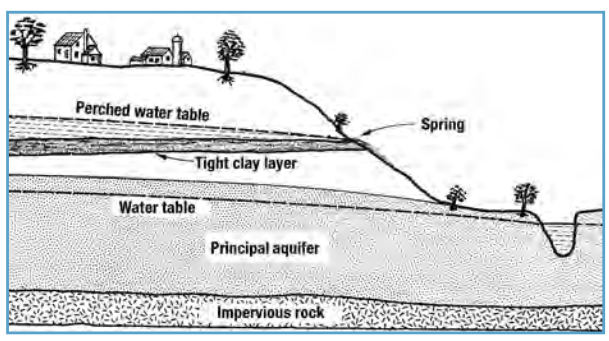
Lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. Infants and young children are typically more vulnerable to lead in drinking water than the general population. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested. Flush your tap for 30 seconds to two minutes before using tap water.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants, including lead, and potential health effects can be obtained by calling the EPA's Safe Drinking Water Hotline at (800) 426-4791.

City of Carmel Water Utilities Map



Yellow shading indicates acquired customers converted over to Carmel Water in July 2006.



Source of Carmel's Water Supply

Carmel Utilities' water supply comes from a ground water source called an aquifer. The aquifer is commonly referred to as the Upper White River Basin Watershed. Twenty-one wells, located throughout the city, pump water from the aquifer to four water plants for treatment. (See map for exact locations.)

The production wells range in depth from 49 to 108 feet deep, are 10 to 24 inches in diameter, and have pumping capacities ranging from 175 to 1,700 gallons per minute.

Future plans call for the addition of three new production wells that will increase the total system pumping capacity to 25 million gallons per day.